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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,509	09/23/2003	Daisuke Shimizu	031197	2580

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ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP  
1725 K STREET, NW  
SUITE 1000  
WASHINGTON, DC 20006

EXAMINER

HAM, SEUNGSOOK

ART UNIT PAPER NUMBER

2817

DATE MAILED: 02/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/667,509

Applicant(s)

SHIMIZU ET AL.

Examiner

Seungsook Ham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tada et al. (US '555) in view of Hiroshima et al. (US '767).

Tada et al. (fig. 10) also discloses a dielectric filter comprising: a dielectric block 51 having a plurality of resonator/through bores 52, 53; each through bore has large-diameter and small-diameter portions 52a, 52b, 53a, 53b; input/output electrodes 56, 57 disposed on an outer surface of the block and separated from the outer conductor 55; each through bore is covered with an inner conductor; wherein a dielectric block exposing portion is formed all over the region of a one plane between the input and

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output electrodes having no conductor layer thereon (see fig. 10, the side surface of the dielectric block where the input/output electrodes 56, 57 are located).

Tada et al. does not show a groove on the open end face of the dielectric block and in conduction with the outer conductor.

Hiroshima et al. (fig. 8) discloses a dielectric filter having a groove disposed between two adjacent resonators and connected with an outer conductor to provide inductive coupling.

Therefore, it would have been obvious to one of ordinary skill in the art to provide a groove at the open end face between the resonators and connect to the outer conductor (thereby providing an inductive coupling) in the device of Tada et al. to suppress an unwanted mode or frequency response as taught by Hiroshima et al. (col. 6, lines 24-47).

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sokola (US '193) in view of Hiroshima et al. (US '767).

Sokola (figs. 1 and 2) also discloses a dielectric filter 10 comprising: a dielectric block 12 having a plurality of resonator/through bores 14, 16; input/output electrodes 18, 20 disposed on an outer surface of the block and separated from the outer conductor 22; each through bore is covered with an inner conductor (see also col. 4, lines 10-47); wherein a dielectric block exposing portion is formed all over the region of a one plane between the input and output electrodes having no conductor layer thereon S3.

Sokola does not show a groove on the open end face of the dielectric block and in conduction with the outer conductor.

Hiroshima et al. (fig. 8) discloses a dielectric filter having a groove disposed between two adjacent resonators and connected with an outer conductor to provide inductive coupling.

Therefore, it would have been obvious to one of ordinary skill in the art to provide a groove at the open end face between the resonators and connect to the outer conductor (thereby providing an inductive coupling) in the device of Sokola to suppress an unwanted mode or frequency response as taught by Hiroshima et al. (col. 6, lines 24-47).

Regarding the subject matter of claim 4 is considered as an obvious modification since Sokola suggested that the resonator holes could have different cross-sectional shapes (col. 4, lines 60-65), and a stepped resonator holes are well known in the art and also shown by Hiroshima et al. (see fig. 2B).

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tada et al. (US '555) in view of Ishikawa et al. (US '208).

Tada et al. is applied as above. Ishikawa et al. (fig. 17) discloses a dielectric filter having a groove disposed between the stepped resonator holes. It would have been obvious to one of ordinary skill in the art to provide a groove at the open end face between the resonators and connect to the outer conductor in the device of Tada et al. to adjust the coupling between the resonator in order to obtain a desire frequency response as taught by Ishikawa et al. (col. 1, line 63 – col. 2, line 21 and col. 8, lines 38-47).

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Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sokola (US '193) in view of Ishikawa et al. (US '208).

Sokola is applied as above. Ishikawa et al. (fig. 17) discloses a dielectric filter having a groove disposed between the stepped resonator holes. It would have been obvious to one of ordinary skill in the art to provide a groove at the open end face between the resonators and connect to the outer conductor in the device of Sokola to adjust the coupling between the resonator in order to obtain a desire frequency response as taught by Ishikawa et al. (col. 1, line 63 – col. 2, line 21 and col. 8, lines 38-47).

Regarding the subject matter of claim 4 is considered as an obvious modification since Sokola suggested that the resonator holes could have different cross-sectional shapes (col. 4, lines 60-65), and a stepped resonator holes are well known in the art and also shown by Hiroshima et al. (see figs. 14 and 17).

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-4 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments filed on 1/6/05 have been fully considered but they are not persuasive.

The rejection under 35 USC 103, Applicant' admitted prior art in view of Hiroshima et al. or Ishikawa et al. has been withdrawn in consideration of the Applicant's Amendment.

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In response to the applicant's arguments to the 103 rejection, Tada et al. in view of Hiroshima et al. or Ishikawa et al., the examiner respectfully disagrees.

In response to applicant's arguments against the references individually ("none of the cited references teaches, mentions or suggests that no conductor layer appears on the dielectric block exposing portion 13 being formed all over the outer peripheral surface of the dielectric block between the input and output electrodes", see REMARKS, p. 8, third paragraph), one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). It should be noted that Tada et al. clearly show the dielectric block having an exposing portion surround the input and output electrodes 56, 57 (see fig. 10). Hiroshima et al. and Ishikawa et al. are applied to show providing grooves between resonator/through holes are well known in the art and for different reasons. Tada et al., Hiroshima et al. and Ishikawa et al. all show a well known dielectric block filter (i.e., they are analogous art).

Moreover, the applicant argues that Tada et al. fails to disclose the "outer conductor in the form of a conductor layer and covering an outer peripheral surface of the block in parallel with the extending direction of the through bores and one end face of the block". However, this is not persuasive since Tada et al. (fig. 10) clearly shows the outer conductor covering the outer peripheral surface of the block in parallel with the extending direction of the through bores 52, 53 and one end face 55 of the block (the outer conductor that is covered around the input and output electrodes 56, 57).

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The applicant stated that "a second capacitance coupling between the pair of input and output electrodes 6, 6 is provided, and causes an additional attenuation pole d2 to appear new" (see REMARKS, page 6, fourth paragraph). It should be noted that none of the claims recite this limitation. However, even if such limitation is considered, this is inherent from the device of Tada et al. since the structure of the dielectric filter of Tada et al. is identical to the applicant's claimed invention (see also Sokola reference, col. 4, lines 10-32).

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.




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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seungsook Ham whose telephone number is (571) 272-2405. The examiner can normally be reached on Monday-Thursday, 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571)-272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Seungsook Ham  
Primary Examiner  
Art Unit 2817

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